

From: john.smelko@cabotog.com
Sent: 5/24/2012 5:27:37 PM
To: "Richard Rupert/R3/USEPA/US" <Rupert.Richard@epamail.epa.gov>
CC: "Rothschild, Lowell" <Lowell.Rothschild@bglp.com>; "Humane Zia/R3/USEPA/US@EPA" <zia.humane@epa.gov>
Subject: RE: Typical Marcellus Well Schematic

Rupert,

As we discussed during the site visit, a general description of the typical drilling process at present is as follows:

- Conductor – Typically drilled via auger rig
- Water Protection String and Intermediate String (i.e. protective of deepest fresh groundwater) – Typically drilled on Water Based Drilling Mud
- Production String – Typically drilled on Water Based Drilling Mud down to the kick-off point and then switch to Synthetic Oil Based Mud (SOBM) for the remainder of the well to total depth. Note that all SOBM is displaced from the hole prior to cementing.

Also as requested, the acronyms on the attached "Typical Cabot Marcellus Well" schematic are as follows:

- BGL – Below Ground Level
- TVD – Total Vertical Depth
- MD – Measured Depth
- KB – Kelly Bushing
- ppg – Pounds per Gallon
- MW – Mud Weight
- KOP – Kick-off Point
- TD – Total Depth
- OH – Open Hole

Please let me know if I've missed any acronyms (other than casing specifications) or if you have any further questions.

Thanks,
John

John Smelko
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From: Richard Rupert [mailto:Rupert.Richard@epamail.epa.gov]
Sent: Thursday, May 24, 2012 9:27 AM
To: John Smelko

Cc: Rothschild, Lowell; zia.humane@epa.gov
Subject: Re: Typical Marcellus Well Schematic

John,
Thanks for the diagram, it is very helpful. However, one of the key elements that I found most reassuring during our visit to the gas-well drilling operation was the description of drilling methods that are being employed. For example, I believe I recall that conventional water based drilling muds are being used for the drilling in the first sections that include the conductor and surface casings. If it is possible I would very much appreciate a description of the drilling methods that are now being used.
Also, please forgive my ignorance of drilling acronyms, could you please tell me the meaning of the acronyms as presented on the diagram?
thanks again for the diagram, I think it is everyone's interest.
v/r
Rich

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"The commander in the field is always right and the rear echelon is wrong, unless proved otherwise."

Colin Powell

From: John Smelko <john.smelko@cabotog.com>
To: Richard Rupert/R3/USEPA/US
Cc: "Rothschild, Lowell" <Lowell.Rothschild@bgllp.com>
Date: 05/23/2012 09:47 PM
Subject: Typical Marcellus Well Schematic

Rupert,

As you had previously requested, please find attached Cabot's typical Marcellus gas well schematic. While there may be occasions or reasons to modify this design based on operational or other drilling conditions and considerations in the future, this schematic currently represents Cabot's typical Marcellus well design. However, this schematic is not necessarily a model for all wells that Cabot has drilled in the past. Let me know if you have any questions or if you would like to discuss further.

Thanks,
John

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[attachment "MarcellusWellDiagram_FFFFFF.PDF" deleted by Richard Rupert/R3/USEPA/US]
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